REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-4, 7-12 and 26 are presently active; Claims 13-25 and 27 have been withdrawn from consideration, and Claims 1, 3, 11, and 26 have been presently amended. Claims 5 and 6 were previously canceled without prejudice. No new matter has been added.

In the outstanding Office Action, Claims 1-12 and 26 were rejected under 35 U.S.C. § 112, first paragraph. Claims 1, 3, 4, 7, 8 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Katakabe (U.S. Pat. No. 6,745,784) in view of Oh (U.S. Pat. No. 6,751,824). Claims 1 and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Katakabe in view of Riedel (U.S. Pat. No. 6,817,369). Claims 2 and 9-12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Katakabe and Oh and further in view of Mandal (U.S. Pat. No. 6,770,424).

In response to the 35 U.S.C. § 112, first paragraph, rejection, Claim 1 has been amended to define a fluid supply line supplying the rinse fluid both to the first control valve and to the second control valve. A fluid supply line is illustratively depicted as elements 439 and 449 in Applicant's Figure 4, which supplies fluid to control valve 434 and control valve 444. With these clarifications, it is respectfully submitted that the 35 U.S.C. § 112, first paragraph, rejection has been overcome.

The outstanding Office Action acknowledges that Katakabe et al do not "specifically disclose having valves in connection with the fluid supplies and nozzles." The Office Action thereafter asserts that valves are well known in the art and states that one of ordinary skill in the art would immediately foresee the necessity of valves to properly operate the rinsing assembly and thereafter points out the teaching of Oh. Yet, Applicant submits that the arrangement of

the first and second control valves and the supply of the same rinse solution to both the first and second control valves would not have been obvious to one of ordinary skill in the art at the time of the invention in view of the applied references.

Oh only discloses a singular control valve supplying all of the rinse solution to the center of a wafer. There is no suggestion or motivation in Oh for a fluid supply line supplying the same rinse fluid both to a first control valve (and thus to an area substantially near the center of the substrate) and to a second control valve (and thus along a radial span of the substrate), as defined in the present claims. The only reference that shows a radial distribution is Katakabe et al, who show the supply of different solutions both to nozzles 14 and 16 in Figure 1 and to nozzles 24 and 26 in Figure 2. There is no suggestion or motivation in Katakabe et al for a fluid supply line supplying the same rinse fluid both to a first control valve (and thus to an area substantially near the center of the substrate) and to a second control valve (and thus along a radial span of the substrate), as defined in the present claims. Indeed, modifying Katakabe et al to supply the same rinse fluid would render Katakabe et al unsatisfactory for its intended purpose. For instance, Katakabe et al disclose that:

> According to the present invention, there is provided a method of cleaning a substrate, comprising: supplying an acid solution to a central portion of a surface of a substrate while rotating the substrate; and supplying an oxidizing agent solution to a periphery of the substrate.
>
> Any natural oxide film of copper, for example, formed on a circuit area on the surface of the substrate is removed, and hence prevented from growing, by the acid solution which is supplied to the central portion of the surface of the substrate and spreads over the entire surface of the substrate. A copper film, for example, attached to the periphery of the substrate is oxidized by the oxidizing agent solution, and etched away and dissolved by the acid solution.[1]

As such, providing the same solution to both nozzle units 14 and 16 in Katakabe et al would defeat the intended purpose of Katakabe et al to both remove copper oxide from the

[1] Katakabe et al, col. 2, lines 20-32.

central area while dissolving a copper film on the periphery of the substrate. Thus, such a modification of Katakabe et al would be improper under M.P.E.P. § 2143.01 (V.).

Moreover, M.P.E.P. § 2143 requires for a *prima facie* case of obviousness that there must be some suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference. With no suggestion in Katakabe et al or Oh for a fluid supply line supplying the same rinse fluid both to a first control valve (and thus to an area substantially near the center of the substrate) and to a second control valve (and thus along a radial span of the substrate), the question remains open as to whether a suggestion for the claimed invention (and thus the modification to the applied references) comes from knowledge generally available to one of ordinary skill in the art.

Indeed, while Applicant acknowledges that valve teachings are known, given the great variety of valves and interconnects known to one of ordinary skill in the art, Applicant submits that picking a combination that supplies the same rinse fluid to both the first and second control valves and thus to the center and along a radial span of the substrate, without knowledge of Applicant's specification, is 1) a matter of guesswork and 2) tantamount to the impermissible "obvious to try" rationale. For instance, M.P.E.P. § 2145 (X.)(B.) states that:

> The admonition that 'obvious to try' is not the standard under § 103 has been directed mainly at two kinds of error. In some cases, what would have been 'obvious to try' would have been to vary all parameters or ***try each of numerous possible choices*** until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or ***no direction as to which of many possible choices is likely to be successful.*** [emphasis added]

Applicant submits that there is no guidance in Katakabe et al or Oh for how to arrange the claimed fluid supply line.

Lastly, the deficiencies in Katakabe et al and Oh are not overcome by Riedel, relied on in the final Office Action for its teaching of a cross connect between two nozzles and valves.

Firstly, valves 416 in Riedel are connected to an atmospheric gas source such that, when the pressure in the inner treatment tank 404 falls below atmospheric pressure, gas (not a rinse fluid) is applied. See col. 9, lines 39-50. Similarly, valves 421 in Riedel exhaust ozone (gas) from the inner treatment tank to catalyzer 426 for neutralization of the ozone before being pumped from the system by pump 424. See col. 10, lines 17-34.

Thus, Applicant submits that one of ordinary skill in the art would not be motivated from the gas handling valve system of Riedel (referenced in the outstanding Office Action) to apply a gas valve configuration to a wafer rinse system. Moreover, without hindsight reconstruction, it is impossible to know from the numerous valve and gas supply line configurations shown throughout the figures in Riedel which configuration to pick.

Furthermore, Applicant submits that one of ordinary skill in the art, upon reading Riedel, would only be motivated to adopt for use the only explicitly shown liquid supply configuration, which in Figure 1 provides fluid from rinsing liquid source 22 by a single, unbranched line 21 to the treatment tank 4. Thus, Riedel ***teaches away*** from the claimed fluid supply line supplying the rinse fluid both to the first control valve and to the second control valve, which requires that the supply line branch to deliver the rinse fluid to both control valves.

Hence, for all of these reasons, independent Claims 1, 11, and 26 (and the claims dependent therefrom) are believed to patentably define over Katakabe et al and Oh and Riedel.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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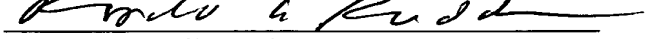

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